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THE BOUNDARY WATERS CANOE AREA WILDERNESS

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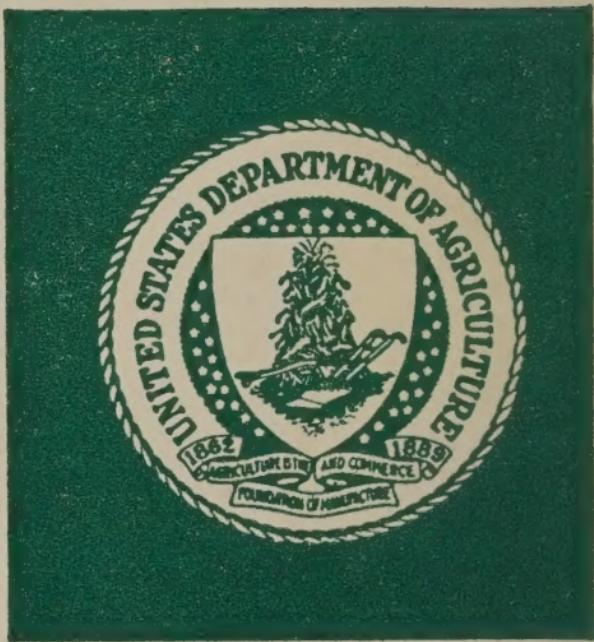
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BWCA

**WELCOME
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WHAT THE TRAVELER SHOULD KNOW

Because the BWCA gets used . . . and, because every effort is made by the Forest Service, USDA, to preserve its primitive characteristics . . . there are rules:

- A *VISITOR'S PERMIT* must be obtained before entering the BWCA during the period of May 1 — November 15. These are available without charge from Ranger Stations in Cook, Isabella, Tofte, Grand Marais, and the Voyageur Visitor Center in Ely. PERMITS MUST BE IN POSSESSION WHILE IN THE BWCA.
- There are limits on the number of visitor permits available during the summer for all overnight use, regardless of method of travel, and for motorboat day use. For information on how to reserve a travel permit, write: Forest Supervisor, P.O. Box 338, Duluth, MN 55801.
- *CANS AND BOTTLES*. Containers of fuel, insect repellent, medicines, personal toilet articles, and other items which are not foods or beverages are the only cans and bottles you may bring with you. Nonburnable, disposable food and beverage containers are not allowed. Returnable beverage bottles are not permitted even though a deposit is charged. All empty containers and other refuse must be burned or packed out.

Examples of items which are not allowed include coffee cans (even when used for bait containers or cooking utensils), beer, soda, liquor bottles or cans, and paper containers with metal ends.

Examples of items which are permitted include vacuum bottles, canteens, plastic or paper con-

tainers, metal food containers that are manufactured and sold as camping gear, and aluminum foil (but, please pack all aluminum wrappings out of the BWCA).

- Mechanical portaging is permitted only over portages along the International Boundary, the Four Mile Portage, and the Fall-Newton-Pipestone Bay Portages into Basswood Lake and the Vermilion-Trout Lake Portage.
- **MOTOR POWERED WATERCRAFT** are permitted only on designated lakes. The following limitations are in effect until January 1, 1984. Lakes with no horsepower limits: Little Vermilion, Loon, Lac LaCroix (but not beyond the south end of Snow Bay in the U.S.A.), and Loon River. Lakes with 10 horsepower limit: Clearwater, North Fowl, South Fowl, Sea Gull, Alder, Canoe, Island River (east of Lake Isabella), Crooked, Carp, Knife, Brule, Basswood River, and Knife River. On these lakes, the possession of one additional motor no greater than 6 horsepower is permitted, provided that motors in use do not exceed 10 horsepower. Lakes with a 25 horsepower limit: Fall, Newton, Moose, Newfound, Sucker, Birch, Snowbank, East Bearskin, South Farm, Trout, Basswood, and Saganaga (except west of American Point). On these lakes, the possession of one additional motor no greater than 10 horsepower is permitted, provided that motors in use do not exceed 25 horsepower. All other lakes or portions of lakes within the BWCA are paddle only. Outboard motors may not be transported across non-motor lakes or portages.
- **SNOWMOBILES** are permitted only on the fol-

lowing routes: Permanent — Overland portage from the east bay of Crane Lake to Little Vermilion Lake in Canada. Temporary (until January 1, 1984) — Vermilion Lake to and including Trout Lake via the existing truck portage. Temporary (until January 1, 1984) — Moose Lake to and including Saganaga Lake via Newfound, Splash, Ensign, Vera, Portage, Knife, Cypress (commonly called Ottertrack), and Swamp Lakes, including existing overland portages. Permanent — Overland portage from Sea Gull River along the eastern portion of Saganaga Lake to Canada. Temporary (until January 1, 1984) — East Bearskin Lake to and including Pine Lake via Alder and Canoe Lakes, including existing overland portages.

- Motor vehicles, chain saws, generators, and other motorized and mechanized equipment are not permitted except as specified above.
- Storage of boats or other equipment is permitted only for the duration of the trip.
- Airplanes must maintain an altitude of 4,000 feet above sea level. (The use of aircraft in emergencies and for protection and administration is permitted after approval from the Forest Supervisor.)
- *PARTY SIZE IS LIMITED TO 10 PERSONS.*
- *CAMPING*, during the ice free season, is permitted only at developed Forest Service campsites having steel firegrates and wilderness box latrines, or within designated remote areas.
- Open campfires, during the ice free season, are permitted only within constructed fireplaces at



developed campsites or as specifically approved on the BWCA permit. Drown and stir your fires, making sure they are dead out before leaving your campsite.

During periods of extreme fire danger, the Forest Supervisor may ban all open fires in the BWCA. Gas stoves may be used for cooking during these periods.

It is unlawful to cut or peel live trees, shrubs, or boughs. Obtain firewood away from camp and well back from shore.

- Use cord instead of nails and wire.
- Leave a clean campsite for those who follow.
- Trenching, which disturbs soil and causes erosion, is not permitted.
- Do not discharge firearms in or near campsites or over water. Better yet, leave your firearms at home.
- Tent poles left by previous campers are often on hand. If new poles are needed, find dead material away from the camping area. The use of tents with collapsible aluminum poles and stakes is encouraged.
- Don't use moss or boughs for a bed.
- Preserve and respect the solitude of the BWCA and the rights of others to enjoy it. Sound carries a long way across open water — especially on a quiet evening.

HOW, WHEN, AND WHERE

The major BWCA entry points are near Crane Lake, Ely, Grand Marais and Tofte. Access is also possible from Tower and from the Arrowhead Trail north of Hovland. Outfitters and resorts are numerous. Hotels and motels are available at or near entry points. Food and other supplies can be purchased in all access towns and most outfitters carry limited stocks.

Cars may be left in the parking areas at developed access points, along bordering roads and with permission, at resorts and outfitters.

A great variety of routes are available to suit every

desire and need. Plan your route before you enter. Commercial outfitters or the local Forest Service office can assist you in planning your trip.

July and August find many of the most popular routes somewhat crowded. The best fishing is in the spring from mid-May through June. September has fewer insects, generally favorable weather, and fewer people. Even October is a good month for the hardy. Fall colors are combined with frosty nights and pleasant days.

A number of outfitters supply everything needed, except personal articles, at a moderate cost. This includes food, canoe, tent, axe, cook kit, and insect repellent. To obtain addresses of outfitters write:

Chamber of Commerce,

Grand Marais, MN 55604

Grand Marais-Gunflint Trail Outfitting

Association, Grand Marais, MN 55604

Chamber of Commerce, Ely, MN 55731

Chamber of Commerce, Tower, MN 55790

Minnesota Arrowhead Association,

Duluth, MN 55802

Commercial Club, Crane Lake, MN 55725

U.S. Geological Survey quadrangle maps may be purchased from the Denver Distribution Center, U.S. Geological Survey, Denver Federal Center, Building 41, Denver, Colorado 80225. Ask for the Minnesota index if you don't know the quadrangle name.

Canoe route maps are available from W. A. Fisher Co., Virginia, MN 55792. Look at the copyright date of your map. Make sure you have a current map showing campsite locations.

These maps are also available from outfitters at communities adjacent to the BWCA.

SAFETY

Risks associated with adverse weather conditions, isolation, physical hazards, and lack of rapid communications are inherent in a wilderness visit. Don't take chances to save time. By being careful and using common sense, you and your party will have a fine experience, memorable for its enjoyment and not for its tragedy.

- Don't attempt canoe travel in high wind or during lightning storms. WAIT IT OUT.
- Never stand in a canoe. Refrain from sudden movement. Keep weight low and centered.
- Always wear a life-preserver jacket even though you can swim. If you capsize, stay with the canoe — it won't sink.
- Running rapids is very risky. Several fatalities have occurred. Scout rapids carefully — you're a long way from help.
- Carry a first aid kit and know how to use it. Know, too, the mouth-to-mouth method of resuscitation.
- In the event of a serious accident, send a canoe for help immediately.

WATER

One of the finest features of the BWCA is its exceptionally high quality water. To help maintain this high water quality, take the following precautions:

- Use wilderness latrines — if no latrine is available, bury human waste at least 100 feet from shore.
- Use only non-leaded marine gasoline.
- Dispose of dishwater and grease away from water. Do not wash dishes or self in lakes and rivers.

To safeguard your health:

- Boil or treat water before drinking.
- Do not drink water, even if boiled or treated, if algae are readily visible.

FISHING AND HUNTING

The use of National Forest land for hunting and fishing is permitted in accordance with regulations issued by the Minnesota Department of Natural Resources. For information, contact:

Minnesota Department of Natural Resources
Centennial Building
St. Paul, MN 55155

WATERCRAFT LICENSES

Minnesota requires that all watercraft, including canoes, be licensed when used on Minnesota waters. A Minnesota license is not required for watercraft legally licensed in other States. A Minnesota watercraft license may be obtained from:

Department of Natural Resources
License Center
625 North Robert Street
St. Paul, MN 55101

It is also possible to obtain a license in person at the Deputy Registrar's Office in Grand Marais, Ely, Duluth, or Virginia; however, these offices are not open on weekends.

QUETICO PARK

Visitors to the Quetico Provincial Park in Canada are subject to rules similar to those for the BWCA. U.S. citizens must stop at a Canadian Customs Station and a Quetico Ranger Station before entering the Park. Entry permits are limited and may be reserved. For information concerning permit reservations and Quetico Park rules, write:

District Manager
Ministry of Natural Resources
Atikokan, Ontario
POT 1CO

HISTORY

The Boundary Waters Canoe Area Wilderness (BWCA), set aside in 1926 as a roadless area to preserve its primitive character, consists of more than 1 million acres of land and water located in the northern third of the Superior National Forest. Stretching approximately 150 miles along the Canadian boundary, the BWCA has some 1,500 miles of canoe routes which attract more than 170,000 persons each year.

At one time, probably as recent as the late 17th century, the Sioux were the dominant Indians in the area. By the time the first fur traders arrived, however, the area was controlled by the Chippewas. They had moved in from the east, driving

the Sioux out of woodlands and onto the plains.

The real fame of the area came with the arrival of Sieur de la Venendrye and the Voyageurs of the fur trade era. In the spring of 1732, the Venendrye party and others paddled their birch bark canoes over what are now the waters of the BWCA, establishing posts on the border lakes.

Control of Canada passed from the French to the English in 1760. English, Scottish, and Canadian voyageurs and traders then began using early French waterways to enter the interior.

By 1840, others were finding their way into the country. They were explorers and surveyors. The great years of the Voyageurs and the fur trade neared an end on the BWCA border waters in the 1880's.

After years of disputes over the international boundary, the question was finally settled by the Webster-Ashburton Treaty of 1842. The treaty provided that "all the water communications and all the usual portages shall be free and open to the use of citizens and subjects of both countries."

The first settlers were finding their way into Northern Minnesota by 1860. They included loggers, miners and farmers. By 1884, the first railroad had penetrated into the area and set the stage for extensive mining and logging operations.

The Superior National Forest was established in 1909.

With much of Northeastern Minnesota's big tim-

ber gone as the result of logging and wildfire and with other threats of complete commercialization of the area, concerned citizens petitioned the Government to preserve portions of the Superior National Forest primarily for recreational use in a primitive setting.

Early in the 1920's, a recreation plan based on the Forest's unique and legendary waterways was prepared. This plan led to a policy in 1926 which set aside 1,000 square miles of the Forest containing the best of lakes and waterways as a wilderness recreation area.

Enlargement of the Superior National Forest in the mid 1930's led to addition of suitable portions of the "wilderness" area. In 1939, the present BWCA was redesignated the Superior Roadless Primitive Area. It consisted of a gross area of just over 1 million acres in the same three separate units which exist today.

A management plan, approved in 1948, reaffirmed existing management and redesignated the area the "Superior Roadless Area." An additional name change came in 1958, when the more fitting "Boundary Waters Canoe Area" was adopted.

Passage of the 1964 Wilderness Act made the BWCA a part of the National Wilderness System. Subsequent regulations by the Secretary of Agriculture, and a management plan provided basic management direction until new legislation was signed on October 21, 1978.

This law added approximately 50,000 acres to the Wilderness, established an adjacent Mining

Protection Area, and created the name "Boundary Waters Canoe Area Wilderness." As well as affecting other management areas, the law reduced the number of motor lakes, provided for three temporary and two permanent snowmobile routes, and eliminated all timber harvesting.

NATURAL HISTORY

Geology

The BWCA is a part of the Laurentian upland or, more commonly, the Canadian Shield. It is some of the oldest and toughest rock known. About 700 million years ago the area was the scene of extensive volcanic activity during which tremendous volumes of granitic lava were expelled. Gradually, the forces of nature created land forms similar to that of Kentucky and Tennessee today. Streams and tributaries were common, lakes rare.

Subsequent sheets of glacial ice covered the land at least four times in the last million years. The ice plowed up whole forests, leveled rocky outcrops and stripped land of soil. Massive rocks were picked up and served to file, groove, and polish the bare rock as the ice ground relentlessly forward.

The retreat of the last glacier left a stark, barren landscape. Boulders of incredible size were scattered over the area. Earlier drainage patterns were altered as meltwater filled depressions. In the wake of the retreating glacier, the myriad of lakes now found in the BWCA were formed.

Slowly, vegetation began to stake a new claim.

Gradually, the limited amount of soil now covering the rocks formed. Decaying aquatic plants collected in shallow lakes to form present-day bogs and swamps. These processes continue today.

As you travel through the area, observe how little soil is found on some areas and recall that it took 11,000 years to form. Plant cover is all that holds this soil in place; that is why we must take special care not to harm the vegetation.

Trees

The land areas are almost completely forested. The principal conifers are the pines — jack, white, and red. White and black spruce, balsam fir, northern white cedar and tamarack are also common. Although a number of species are common, the principal broad-leaved trees are quaking aspen and paper birch.

Wild Flowers

A great variety of flowers, including many sub-arctic species, can be found here. The cool climate is especially suitable to orchids of which there are close to 30 native species. The pink-and-white lady slipper, Minnesota's State flower, is one.

Wildlife

The wildlife of the BWCA, too, is unique. It is the haunt of the last substantial population of timber wolves in the contiguous United States.

The fisher, a furbearer once thought close to extinction in the United States, is now common. Other mammals found here include white-tailed deer, moose, black bear, otter, weasel, mink, coyote, muskrat, fox, beaver, squirrel and a variety of other rodents.

Fish

The principal native game fish are walleye, northern pike, and lake trout. Many lakes have small-mouth bass. Bluegills and crappies are occasionally taken but they are not widely distributed. Rainbow and brook trout have been stocked in a few lakes.

Birds

A host of birds make the BWCA home during the summer. These range from the tiny ruby-throated hummingbird to the great bald eagle. Included are some 150 other species of which the State Bird of Minnesota, the common loon, is one.

Insects

Blackflies and mosquitoes are prevalent during early summer, but their impact can be minimized by using a good insect repellent. Spray cans or bottles of insect repellent may be carried into the BWCA if they are also carried out.

Weather

The temperature may vary considerably from

daytime to nighttime and it is important to be prepared for the coldest possible temperature. Following is the average range of temperatures based on 10 years of data:

Month	Average			Days With Precipi- tation	Average Inches of Precipi- tation
	High	Low	Normal		
May	67	42	55	16	3.1
June	70	50	60	16	4.2
July	77	55	66	15	3.3
August	73	54	64	14	3.8
September	63	45	54	16	3.4

COOKING TIPS

A variety of light weight, freeze-dried and dehydrated foods are available to make your meals in the BWCA easy to plan and prepare.

Most are packed in containers permitted in the BWCA. Many campers still desire to prepare some meals from "scratch."

Following are some cooking and camping suggestions:

SOUR DOUGH STARTER

(Mix before trip)

1 cake or 1 pkg. yeast	1 tblsp. salt
½ c. lukewarm water	1 tblsp. sugar
2 c. flour	1-1½ c. cold water

Soften yeast in lukewarm water. Measure flour, salt and sugar into large bowl. Cover with towel and let stand in warm place (80 to 90 degrees), stirring it down daily. In 3 or 4 days it should be ready for using. Keep in clean container.

SOURDOUGH PANCAKES

1 c. starter	1 tsp. salt
2 c. unsifted flour	2 tsp. soda
2 c. milk	2 eggs
3 tblsp. melted shortening	2 tblsp. sugar

The night before, mix starter, flour, milk and salt. Let stand in a covered bowl in a warm place.

Just before baking cakes, remove 1 cup batter to replenish starter. To the remaining starter add soda, eggs, shortening and sugar. Mix well and cook on lightly greased griddle.

For a real treat add two or three handfuls of fresh blueberries to your pancake batter.

FRIED FISH

Roll fillets in seasoned flour or mixture of $\frac{1}{2}$ flour, $\frac{1}{2}$ cornmeal. Dip in beaten egg. Follow with second coating of flour. Fry in deep, sizzling hot, grease for six to eight minutes.

A few sliced or diced onions sauteed in pan prior to frying fish fillets will add to the flavor of the fish.

A canoe paddle makes an excellent surface for filleting fish.

COFFEE

One level tblsp. per cup.

Measure amount of water needed. Bring it to boil. Remove water from fire, add coffee. Stir, place pot to side of fire. Allow it to steep — NOT BOIL — for eight minutes. Stir again before serv-

ing to settle grounds. A little cold water added before serving will help to settle grounds.

ADDITIONAL IDEAS

Use the bottom of a canoe for a table rather than constructing camp furniture from native material.

If a wood fire is used for cooking, soap outside of pots and pans prior to use. This will make scouring easier.

A small folding saw is most efficient and least dangerous for making firewood.

Put dry firewood under the overturned canoe before going to bed in case of rain during the night.

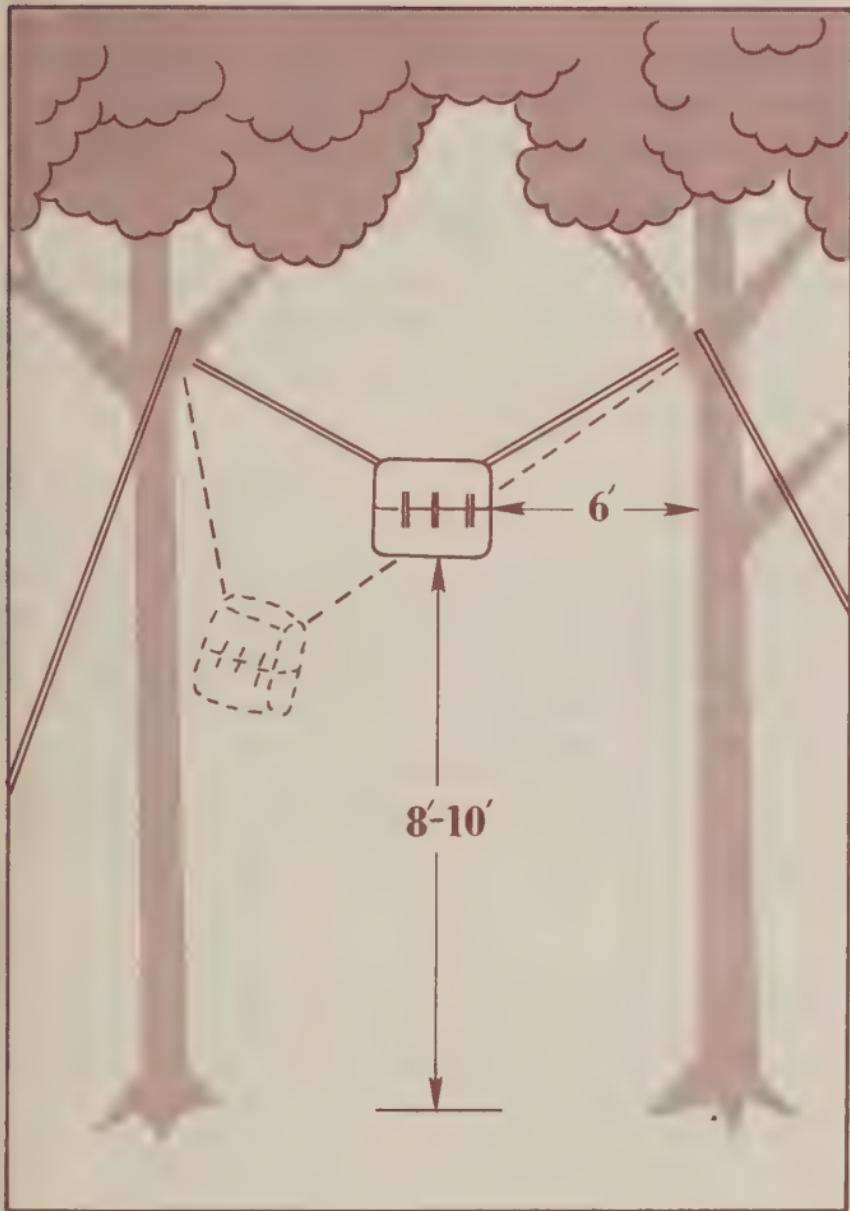
BEARS

While bears are not normally dangerous, they can be a nuisance around the campsite. Each year, some campers lose portions of their food supply to bears. To prevent this, keep a clean campsite and burn all excess food scraps (including grease) in a hot fire. *Do not* discard food scraps or other refuse in latrines.

When not in use, hang your food pack in a tree. The following is one method to hang your food. You will need two 30' pieces of rope strong enough to support your pack. Tie rope ends around the pack rather than to the straps.

When away from camp, leave your tent flaps open so that an inquisitive bear can walk in, look about, and walk out without destroying the tent.

If a bear enters your camp when you are present,



you may be able to frighten him away by shouting or banging a stick against a cooking pot. Do not throw objects at it or attempt to feed it. If it refuses to leave or becomes hostile, let him have the campsite.

WARNING: Female bears are extremely protective of their young. Don't get between a mother and her cub.

DOGS

You may bring dogs into the BWCA, but respect other visitors' rights. Keep dogs on a leash while on portages and prevent excessive barking.

FOREST SERVICE MAPS

A small scale "mini" map of the Forest is available free from any Superior National Forest Office. This map shows major roads and lakes as well as campground locations.

Larger scale (1/2" to the mile) maps are for sale at 50c each. Separate maps cover the western, middle and eastern portions of the Forest. These maps show most lakes and roads but are not considered suitable as a guide for canoe travel in the Boundary Waters Canoe Area Wilderness.

All Superior National Forest maps are available by mail from the Forest Supervisor, P.O. Box 338, Duluth, Minnesota 55801.

"Wilderness is an area where earth and its community of life are untrammeled by man, where man is a visitor who does not remain."

National Forests provide a variety of uses, products, and pleasures for people. They were originally established to protect watersheds and supply timber, and they still do. But in addition, these forest lands are now rich in wildlife, forage, and recreation opportunities. These and other uses are managed by the Forest Service, U.S. Department of Agriculture. Specialists in many fields coordinate and balance uses so that all Americans will receive maximum benefits throughout the years.



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